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NOTES ON GEOGRAPHIC DISTRIBUTION

Pisces, Cyprinodontiformes, Rivulidae, *Austrolebias minuano* Costa & Cheffe, 2001 and *Austrolebias wolterstorffi* (Ahl, 1924): new species records at Rio Grande city, Rio Grande do Sul state, Brazil

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Austrolebias minuano Costa & Cheffe, 2001 (Figure 1) and *Austrolebias wolterstorffi* (Ahl, 1924) (*sensu* Costa 2006) (Figure 2) belong to the Rivulidae family and are characterized by having short life cycles within ephemeral aquatic habitats. In fact, species of this family are known as annual fishes. The decreasing in water levels seems to trigger their reproduction. Adults die off during dry periods, whereas their resistant eggs remain dormant, usually buried within the substrate, waiting for the rainy period to their eclosion (Costa 2002).

The current conservation status of *A. minuano* and *A. wolterstorffi* brings concern since both species are listed as 'endanger' and 'critically endanger' in the Red Book of Endangered Species of the Rio Grande do Sul, respectively (Fontana *et. al.* 2003). We found both species in a flooded section of a native forest in the Rio Grande city surroundings. This finding extends the previous geographic distribution of both species and highlights the importance of this area for the conservation of these endangered fishes.

The 'Estrada Velha' forest (32º07'45,8" S; 52º09'11.1" W; Datum WGS 84) (Figure 3) is a fragment of swampy forest with a perimeter of approx. 1,760 m and an area of 0.22 km^2, that belongs to the Military Police 6th Battalion of Rio Grande do Sul state. This area remained flooded between May and November of 2005. Water samples taken on October 19th 2005 revealed the following parameters: 5.58 – 5.60 pH, 3.37 – 3.59 mg/L dissolved oxygen, 419 mS conductivity and 20 °C temperature.

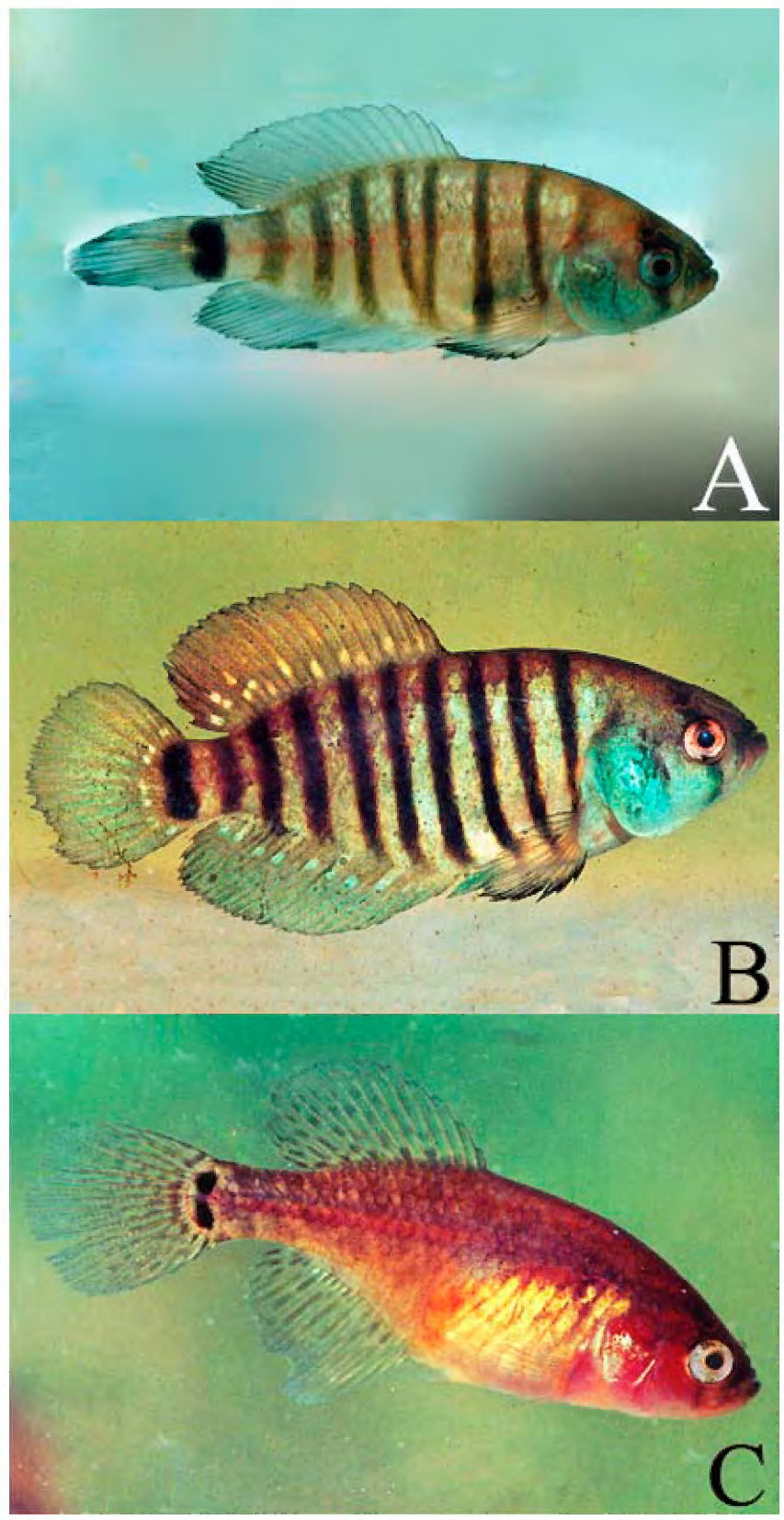

Figure 1. Male (A and B) and female (C) of *Austrolebias minuano*. Note the different type of stripe patterns encountered in the two males (A and B) compared with the female (C). Photo: F. M. Quintela.

During this flooding, we conducted field trips to investigate the local ichthyofauna, which revealed

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specimens of *A. minuano* and *A. wolterstorffi* inhabiting this area. In order to be certain of their taxonomic status they were preserved in 10% formalin and late identified at the Zoology Laboratory of the Morphological and Biological Department of the Rio Grande Federal University (FURG).

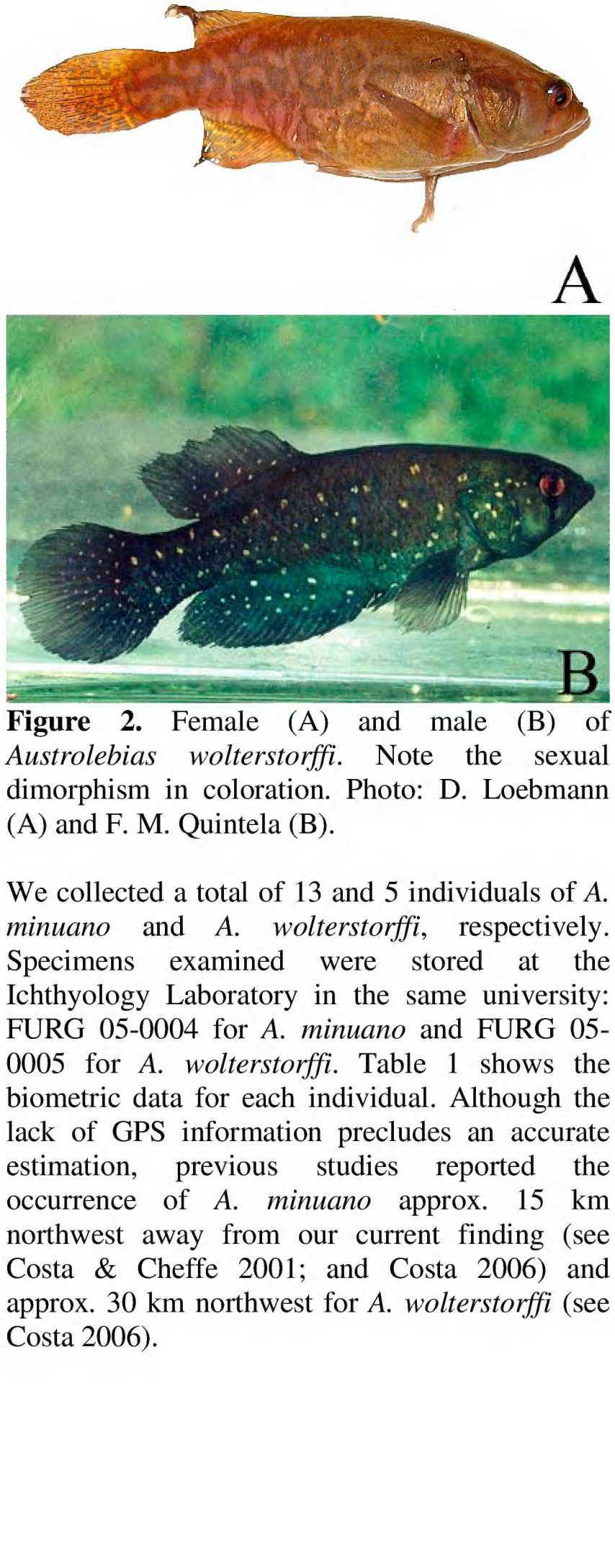

Figure 2. Female (A) and male (B) of *Austrolebias wolterstorffi*. Note the sexual dimorphism in coloration. Photo: D. Loebmann (A) and F. M. Quintela (B).

We collected a total of 13 and 5 individuals of *A. minuano* and *A. wolterstorffi*, respectively. Specimens examined were stored at the Ichthyology Laboratory in the same university: FURG 05-0004 for *A. minuano* and FURG 05-0005 for *A. wolterstorffi*. Table 1 shows the biometric data for each individual. Although the lack of GPS information precludes an accurate estimation, previous studies reported the occurrence of *A. minuano* approx. 15 km northwest away from our current finding (see Costa & Cheffe 2001; and Costa 2006) and approx. 30 km northwest for *A. wolterstorffi* (see Costa 2006).

Even if we consider that previous and locations reported here are relatively close to each other, the fact these fishes are in the Rio Grande do Sul state's red list highlights the importance of our present record. Besides, M. M. Cheffe (pers. comm.) had supposed that *A. wolterstorffi* were locally extinct at the Rio Grande city and its surroundings. Our current findings, therefore, are important to augment new scientific data of annual fish populations along the Rio Grande do Sul coastal plain, which could help to evaluate the conservation status of these endangered species and their habitats.

Table 1. Morphometric data of specimens collected in the present work. TL = Total length (mm); SL = Standard length (mm) and; TW = Total weight (g).

Species	Sex	TL	SL	TW
Austrolebias minuano	M	40	28	0,7
	M	45	32	1,5
	M	45	31	1,7
	F	23	17	0,1
	F	38	24	0,4
	F	39	25	0,4
	F	42	27	1,3
	F	45	25	0,7
	F	45	27	1,1
	F	47	32	1,1
	F	40	30	1,5
	F	40	26	0,9
	F	50	35	1,9
Austrolebias wolterstorffi	M	99	70	10,8
	M	99	69	11,5
	M	100	70	11,2
	F	90	6	11,3
	F	105	74	17,9

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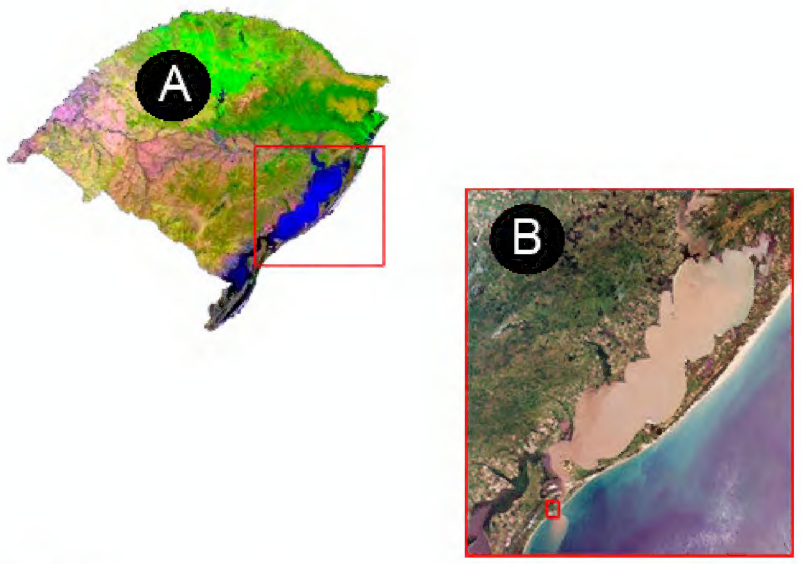

Figure 3. Study area. A – Rio Grande do Sul state; B – Patos Lagoon system and; C - Swampy forest area where the individuals were collected.

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